

Prince. (A. E.)

AN ACCIDENTAL DIVULSION OF A PTER-
YGIUM LEADING TO AN IMPROVEMENT
IN THE REGULAR OPERATION

BY

A. E. PRINCE, M.D.
JACKSONVILLE, ILL.



Reprinted from the ARCHIVES OF OPHTHALMOLOGY, Vol. xiv., No. 1, 1885.

PRESS OF
G. P. PUTNAM'S SONS
27 & 29 WEST 23D STREET, NEW YORK
1885

AN ACCIDENTAL DIVULSION OF A PTERYGIUM LEADING TO AN IMPROVEMENT IN THE REGULAR OPERATION.

By A. E. PRINCE, M.D., OF JACKSONVILLE, ILL.

(With a wood-cut.)

CONCERNING the separation of the corneal portion of a pterygium, within the limits of my research, the results are scarcely what one should hope to obtain.

First, in the operation of grasping the growth with forceps and dissecting it from the cornea with scissors, its complete removal, when extensive, without leaving remnants of opaque material, is practically impossible.

Secondly, in the efforts to separate it from the cornea with a sharp knife, the imperfection of human dexterity leads either portions of the deeper strata of the pterygium to be left, to atrophy into opaque tissue, or the superficial layer of the substantia propria to be wounded, by the cutting edge, resulting too often in facets or opacities.

In the hope of being able to present a consideration of value in the treatment of these extreme cases, involving the pupillary area of the cornea, is offered a summary of my notes of an accident which occurred about two years since.

In the case of a middle-aged man whose left eye was defective from injury, a fleshy pterygium extended from the nasal side to the temporal margin of the pupil, cutting off direct vision except when under the influence of a mydriatic. He was told that the removal of the growth could not be effected without leaving opacities on the already invaded cornea, and that to secure the

best possible vision an iridectomy would probably be required ; but as the growth had already covered the pupil and was still actively progressive, an attempt at its removal was imperative. Having a very wide base, the excision of so much conjunctiva would certainly have limited abduction to a prejudicial degree ; hence it was determined that Knapp's modification¹ of Desmarres' transplantation operation² would give the best results, and it was accordingly undertaken.

Following my usual custom, a small strabismus hook was passed under the pterygium near the corneal margin, and such traction made as would lift the pterygium from the surface of the sclera and facilitate its separation from the bordering conjunctiva, as well as the preparation for its transplantation, the corneal separation being left to the last. The lateral incisions to the base of the pterygium were made, and then, with Wecker's scissors, extended upward and downward into the retro-tarsal folds, and sutures inserted into the angles, to receive the divided apex.

Thus far the strabismus hook had been held by an assistant and the steps of the operation had been uneventful when, by an unskilful act, the hook was *torn from its position and the entire corneal portion of the pterygium separated from its underlying surface.*³

An inspection converted solicitude into satisfaction, for, in place of the usual opaque remnants and corneal irregularities, were seen a transparent surface and a well-defined pupil.

The appearance was that of an extensive epithelial abrasion, corresponding to the area of the unexposed cornea.

Inasmuch as Arnold's researches³ had demonstrated the facility with which corneal epithelium, under favorable circumstances, is regenerated, this condition was not looked upon as unfavorable.

The apex was then divided by a longitudinal incision extending to the caruncle, and the apex of each half transplanted into the incision prepared for its reception, and after the requisite sub-conjunctival dissection the free edges were united in the usual manner in the median line.

¹ Knapp : " Pterygium Operation durch-doppelte Transplantation," *Graefe's Arch. f. Ophth.*, 1868, Bd. xiv., Abth. I, p. 267.

² Desmarres : " Traité des Maladies des Yeux," t. ii., p. 169.

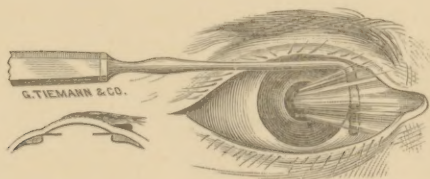
³ Arnold, *Virchow's Archives*, about 1868.

With directions to keep the eye constantly moistened with a cold compress soaked in a half-per-cent. aqueous solution of pure carbolic acid, he returned to his home in Winchester to continue under the observation of his family physician.

Some months later he returned, to my surprise, with a perfectly transparent cornea, and though it is to be regretted that an unavoidable delay prevented the minute inspection of his cornea and measurement of his vision, in the interval during which he disappeared, I regarded it as the most perfect result that had ever come to my notice.

Since that time, it has fallen to my lot to operate twelve times in this manner, and it has been my observation, as stated by Schreiter in his inaugural dissertation "*Untersuchungen über das Flügelfell*,"¹ that there appears to be no intimate connection between the pterygium and Bowman's membrane, which permits the growth to be removed *en masse*, except when it has been associated during its formation with corneal ulceration, in which case we might expect the condition illustrated by Alt,² of a wedge-shaped penetration, by the connective tissue of the pterygium, into the substantia propria of the cornea, in which condition one would expect resistance to the effort at divulsion.

In my experience, the results have been so gratifying that, with the accompanying hook, having a cutting point to



favor its introduction and a wedge-shaped edge to facilitate the separation, we submit the operation to the judgment of the profession, hoping that the acknowledgment of the accident may have an educational value.

¹ Graefe-Saemisch. *Augenheilkunde*, Bd. iv., p. 138.

² Alt: "Lectures on the Human Eye," 1880, cut 12, p. 30.

